# Commentary to support marking

Physics Sample B

SL & HL Internal Assessment May 2016

English

In the table below please provide a **short** commentary, maximum of 60 words per question/criteria, to justify the mark allocation to support workshop leaders using this sample in a workshop. Please do not refer to the candidate by name or number, or make comparison to other candidates as this document will need to be anonymised before uploading on the Workshop leader resource centre (WRC).

The commentaries are intended to support teachers’ understanding of assessment in this subject so that they can then develop other activities that assess understanding to the same standard.

Guidance for writing commentaries:

* Before writing comments read the subject report and grade descriptors for this subject. Comment should not contradict either of the documents.
* Explain why students missed/gained marks and the level of understanding that this demonstrated; useful language from the grade descriptors could be included.
* Highlight any common problems that need to be addressed by teachers

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| **Criterion** | **Mark** | **Out of** | **Justification** |
| **Personal**  **Engagement** | **2** | **2** | Although this is a simple and indeed obvious investigation, the student demonstrates significant independent thinking and initiative, except for academic research (which comes under Exploration assessment). Personal significant as well as interest and curiosity are expressed. The design and implementation, although basic, is indeed the student’s own contribution to the investigation. |
| **Exploration** | **4** | **6** | Although research is lacking the student offers a reasonable but not fully focused explanation of their expectations. More details on the nature of a cooling curve are missing. Cooling time interval was too small for an appropriate cooling curve. The methodology is mainly appropriate but lacks important subtle details. The student should be more determined with the quality of data they planned to collect. There is a satisfactory awareness of safety issues. |
| **Analysis** | **4** | **6** | Time was recorded in minutes with a 12 second uncertainty. This is not acceptable. The thermometer touched the base of the cup. Air insulation was between stacked cups. Significant figures were inconsistent in important places. A linear graph is not justified. Processing follows high school methods even if not appropriate in this investigation. The student’s initial explanation about limits of cooling has been forgotten. Nonetheless the data could be appropriate and markband 3-4 is awarded. |
| **Evaluation** | **3** | **6** | The vague and general hypothesis is indeed confirmed (a positive relationship) even if the graph is incorrectly linearized. The 10-degree limit is appreciated, but so much of a good IA has been missed. General procedural strengths and weakness are addressed, but not based on any analytical evidence. There is no comparison to accepted theory, and the teacher should have encouraged the student here to do some research and expand the interest of the IA. There is the attempt to describe some improvements, and extension. The appendix was not assessed. Evaluation is at the low end of the 3-4 markband. |
| **Communications** | **3** | **4** | Although there are some errors, confusions and inconsistencies, the presentation is more or less understandable. The report structure remains focused on the process and outcomes. Except for the lack of cooling theory, the report content of remains relevant. Despite the lack of refinement, Communications is in the low end of the 3-4 markbamd. The student is obviously doing their best without much teacher guidance. |
| **Total:** | **16** | **24** |  |